



**ALAMEDA POINT
LANDFILL #2**

**REMOVAL OF
BURIED RADIOACTIVE DEVICES
AND ADJACENT CONTAMINATED SOIL**

SUMMARY REPORT

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Vallejo, California 94592-0135

September 8, 1999

A. BACKGROUND: Radiological global positioning surveys (GPS) performed by SSPORTS at Alameda Point Landfill #2 identified numerous anomalies indicative of various concentrations of buried radioactivity. Based upon review of this survey data SSPORTS has completed initial remedial actions at 50 specific sites and at the "radshack" site. The focus of these initial remedial actions was to attempt to resolve indicated anomalies of >20 KCPM and to resolve the overall "radshack" site.

B. ENCLOSURES:

- (1) Alameda Point Landfill #2 Located Anomalies
- (2) Alameda Point Landfill #2 Anomaly Removal Site Remediations
- (3) "Radshack" Site Baseline Survey Map
- (4) "Radshack" Site Post Remediation Survey Map
- (5) "Radshack" Site Soil Removal Area Details
- (6) Photos

C. SUMMARY OF SSPORTS ACTIONS PERFORMED: Survey map reviews indicated approximately 30 sites with NaI gamma radiation levels of >20 KCPM. These sites were located, radiation levels were manually confirmed and all sites were staked for positive identification. Approximately 20 additional sites of varying radiation levels were also confirmed during survey trailer maneuvers required to locate the initially specified sites. These additional sites were, for the most part, in very close proximity to the initially specified sites.

Hand digging operations were performed at 50 sites and at most sites a discrete radioactive source was located and removed within 12" of the surface. 16 sites indicated either residual radioactivity after discrete item removal or non-segregable dispersed radioactivity in the soil. All sites were sampled and based upon isotopic analyses results soil removal operations were initiated at 16 sites where radium levels exceeded 5 pCi / gram. Soil removal and sampling operations continued until no levels above 20 KCPM remained at the individual sites and all samples indicated < 5 pCi / gram. See Enclosures (1) and (2) for details regarding items found.

Remediation operations at the "radshack" site involved removal of 10 steel perimeter posts with concrete footings and hand digging of 10 individual sites within and adjacent to the perimeter. Only 2 discrete items (see Enclosure (1) items 35 and 44) were unearthed at the site, however, a total of eight 55 gal. drums of soil, rock and concrete were required to be removed in order to achieve ground surface levels of <20 KCPM. See Enclosures (3), (4) and (5) for details regarding before and after cleanup levels.

A total of fifteen 55 gal. drums of contaminated soil removal materials and all discrete items removed from the 50 individual sites listed in Enclosure (1) were transported from temporary storage at Bunker M353 to Building 5 for characterization sampling by "New World Technologies" in preparation for disposal. Bunker M353 was surveyed and swipe sampled clean after all material was removed. All anomaly removal site and "radshack" site excavations have been refilled with clean soil (ie., isotopic analysis results of fill material indicated 1.005 pCi / gram radium) and all resolved site markers have been removed. See Enclosure (6) photos provided for information.

ALAMEDA POINT LANDFILL #2 LOCATED ANOMALIES

SITE I.D.	GROUND SURFACE KCPM *	"X" AXIS COORDINATE (State Plane Coordinates)	"Y" AXIS COORDINATE (State Plane Coordinates)	ITEM DESCRIPTION & ~ DEPTH	REMARKS
1	136 / 8	1472736.8	473903.74	radium button @ 10"	
2	50 / 8	1472794.8	473765.74	convex lens @ 10"	
3	50 / 8	1472797.8	474145.74	radium button @ 8"	
4	45 / 7	1472867.8	474153.74	radium button @ 10"	
5	50 / 7	1472937.8	474168.74	radium button @ 8"	
6	35 / 7	1472987.8	473991.74	radium button @ 12"	
7	30 / 8	1472564.8	474032.74	radium button @ 10"	
8	55 / 8	1472588.8	474091.74	radium button @ 12"	
9	15 / 9	1472626.8	474050.74	radium button @ 12"	
10	18 / 20	1472653.8	474009.74	plastic warning sign pieces (red) @ 8"	
11	83 / 8	1472720.8	474120.74	radium button @ 10"	
12	45 / 7	1472718.8	474115.74	radium button @ 10"	
13	135 / 11	1472703.8	474100.74	radium button @ 8"	
14	320 / 7	1472805.8	474122.74	radium button @ 6"	
15	61 / 8	1472847.8	474111.74	plastic glow dot @ 10"	
16	18 / 6	1472102.8	474164.74	1" long toggle @ 10"	
17	27 / 15	1472249.8	474266.74	5/8" rusty metal @ 12"	
18	30 / 50	1472336.8	474214.74	"terrazzo" pieces @ 12"	
19	66 / 58	1471813.8	474265.74	gageface (aluminum) @ 10"	
20	32 / 11	1471607.8	474122.74	button 3/4" @ 10"	
21	100 / 24	1471280.8	474494.74	Sound powered phone jackbox @ 10"	
22	40 / 7	1473002.8	474008.74	radium button @ 8"	
23	35 / 8	1472503.8	474266.74	melted glass & soil @ 8"	
24	130 / 8	1472499.8	474260.74	rock/metal 1/2" diameter @ 6"	
25	25 / 8	1472478.8	474260.74	rock/metal 1/8" diameter @ 4"	
26	150 / 60	1472920.8	473997.74	radium button @ 3", plastic gage cover & small "speck" @ 10"	
27	80 / 8	1472827.8	474079.74	radium button @ 6"	
28	70 / 7	1472820.8	473978.74	radium button @ 12"	
29	60 / 8	1472917.8	474006.74	strontium button @ 6"	stainless case & thick lens; "glow in dark"
30	40 / 8	1472984.8	474012.74	radium button @ 8"	@ fenceline
31	50 / 7	1472803.8	474122.74	radium button @ 12"	
32	24 / 8	1472842.8	473979.74	radium button @ 12"	

ALAMEDA POINT LANDFILL #2 LOCATED ANOMALIES

33	52 / 9	1472738.8	474111.74	radium button @ 10"	
34	55 / 9	1472705.8	474113.74	radium button @ 10"	
35	50 / 12	1471594.8	474390.74	plastic cap w/ button @ 3"	@ "radshack" site
36	15 / 8	1472575.8	473979.74	metal bracket w/ plastic knob @ 5"	
37	20 / 15	1472632.8	473958.74	plastic warning sign piece @ 8"	
38	40 / 7	1472908.8	473931.74	radium button @ 8"	
39	95 / 18	1472815.8	474110.74	plastic glow dot @ 4"	
40	15 / 8	1472920.8	474100.74	radium button @ 14"	
41	17 / 7	1471756.8	474293.74	metal chunk 1" diameter. @ 6"	
42	50 / 44	1471809.8	474359.74	rust in sand @ 4"	
43	25 / 26	1471980.8	474082.74	unidentified activity dispersed in soil	
44	22 / 9	1471587.8	474379.74	red plastic knob @ 4"	@ "radshack" site
45	63 / 7	1471888.8	474192.74	metal chunk 1/2" diameter @ 3"	
46	41 / 9	1472499.8	474298.74	melted glass vial @ 2"	possibly the other end of anomaly 23
47	27 / 13	1473000.8	474010.74	radium button @ 10"	~20 sq. ft. adj. area elevated
48	13 / 7	1472564.8	474323.74	green glass chunk 1/2" diameter. @ 2"	@ fenceline
49	160 / 13	1472949.8	474005.74	strontium button @ 3" (same as 29)	
50	42 / 7	1472802.8	474046.74	big "T"-handle snap switch @ 12"	weighs ~10#'s 800 KCPM on contact

* Indicates ground surface KCPM "before/after" device removal. See Enclosure (2) for details regarding individual site remediations.

ALAMEDA POINT LANDFILL #2 ANOMALY REMOVAL SITE REMEDIATIONS

[illegible]

NOTE: KCPM values indicated are “before item removal / after item removal / after remediation”

42'

BCRM A

ENCLOSURE (3)

"BASELINE" SURFACE RADIATION LEVELS 7/12/99 M353 ✓

ALAMOGADO POINT
LANDFILL #2,
"RADSHACK" SITE

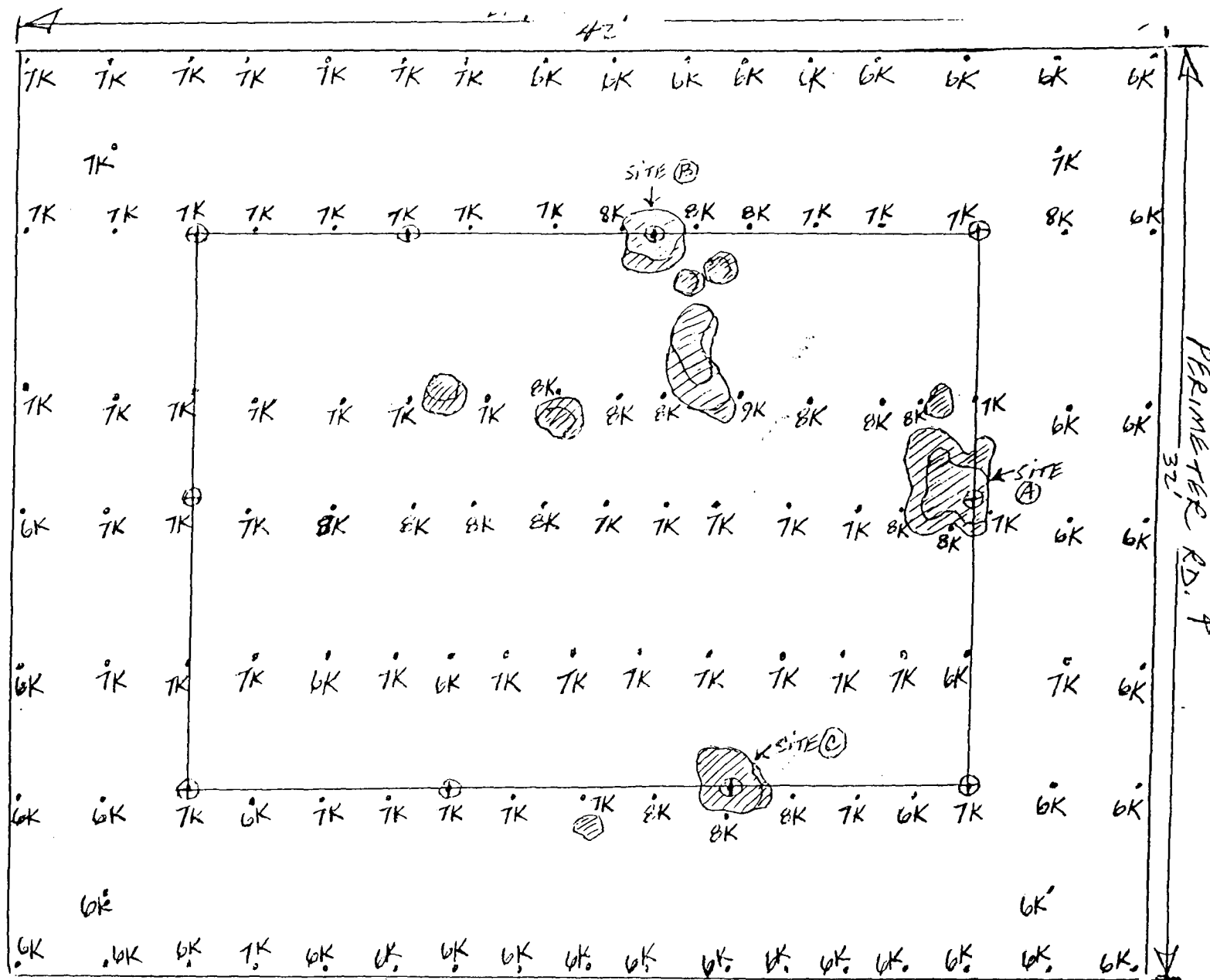
↓ PROMETER ROADS

GROUND SURFACE CONTACT
LEVELS MEASURED USING
LUDLUM MODEL 2221 (SN 1404432)
LUDLUM MODEL 44-10 (SN PR119800)
Birmingham 9303 7/21/99
BECM 4

⊕ DENOTES "10"
POST REMOVAL
SITES

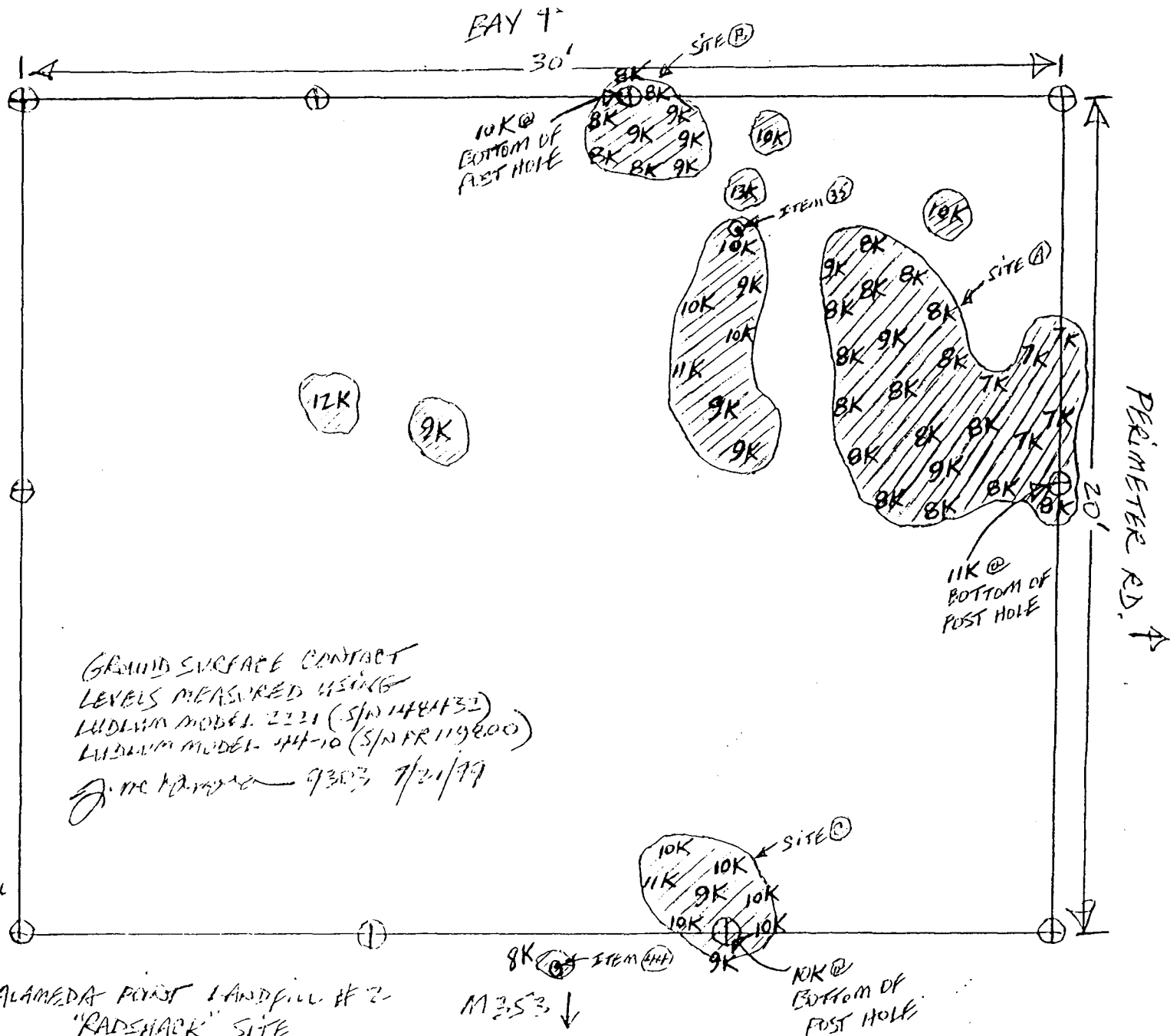
$$K = K_{\text{CPM}}$$

ENCLOSURE
(4)



ALAMEDA AIRPORT LANDFILL #2 M353 ↓
"RADSHACK" SITE
POST REMEDIATION SURVEY

NOTE: DISREGARD SOIL REMOVAL AREAS
SHOWN HERE (IS, NOT TO SCALE)
SEE ATTACHED FOR SOIL REMOVAL
AREA INFO.



K = KCPM

GROUND SURFACE CONTACT
LEVELS MEASURED USING
LUDLUM MODEL 2221 (S/N 1484132)
LUDLUM MODEL 44-10 (S/N FR 119800)
J. McNamee 9303 7/21/99

⊕ DENOTES "10"
POST REMOVAL
SITES

Asbestos
(5)

ALAMEDA POINT LANDFILL #2
"RADSHACK" SITE
SOIL REMOVAL AREA SURVEY

8K ⊕ ITEM (44)
M353 ↓

10K @
BOTTOM OF
POST HOLE

**ALAMEDA POINT
LANDFILL #2
SUMMARY REPORT**

PHOTOGRAPHS

ENCLOSURE (6)



**ALAMEDA POINT LANDFILL #2
"RADSHACK" SITE
(VIEWED FROM PERIMETER ROAD)**



**ALAMEDA POINT LANDFILL #2
ANOMALY REMOVAL SITE #21
(ON ROAD INSIDE NORTHEAST ACCESS GATE)**



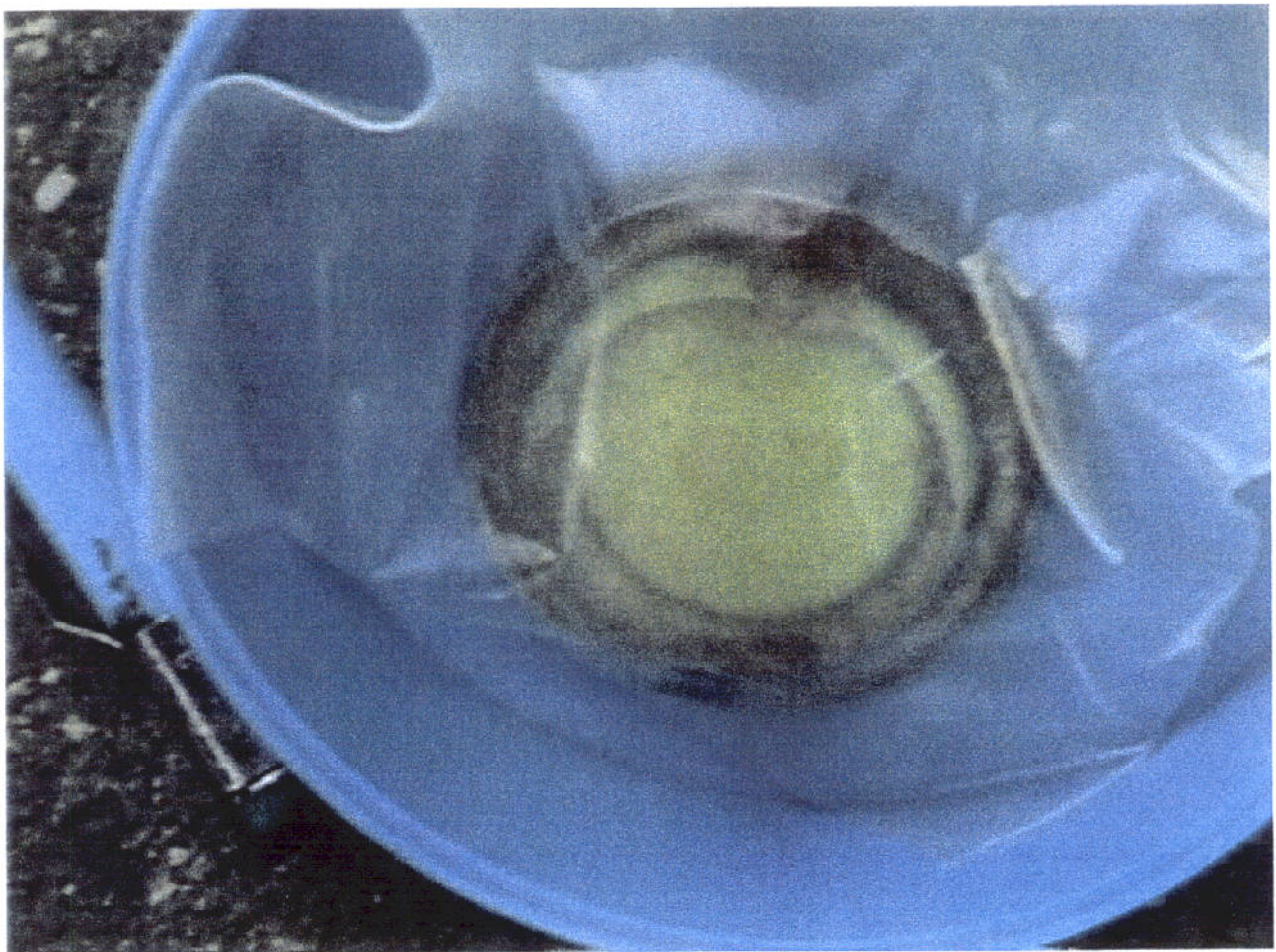
**ALAMEDA POINT LANDFILL #2
ANOMALY REMOVAL SITES #23, 24 & 25
(INSIDE FENCE EAST OF BUNKER M354)**



**ALAMEDA POINT LANDFILL #2
(YELLOW FLAGS INDICATE SITES SOUTHEAST OF BUNKER
M354 WHERE MOST RADIUM BUTTONS WERE FOUND)**



**ALAMEDA POINT LANDFILL #2
COLLECTION OF DISCRETE ITEMS
TEMPORARILY STORED IN BUNKER M353)**



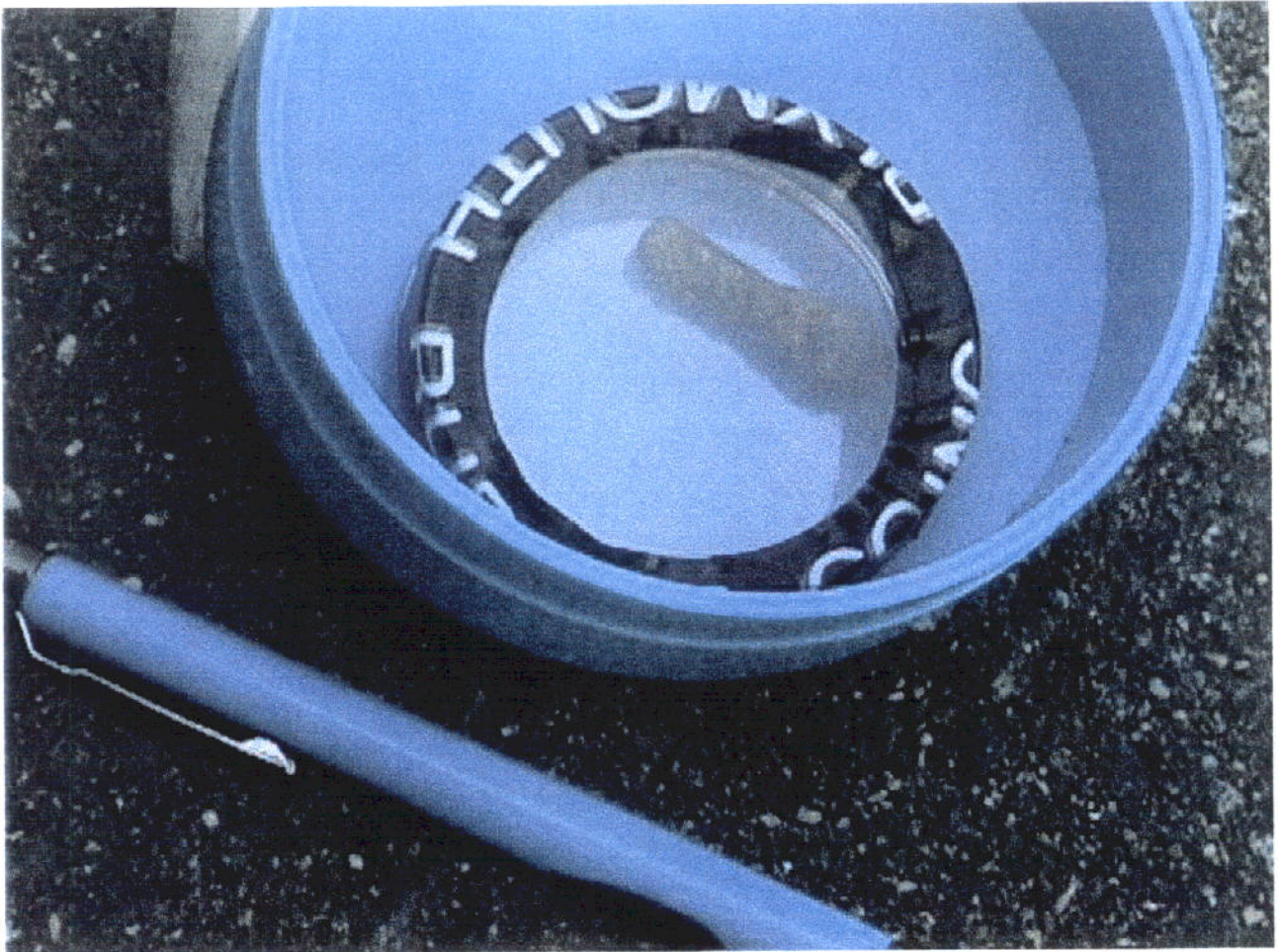
**ALAMEDA POINT LANDFILL #2
FRONTSIDE OF Sr-90 BUTTON
(FROM ANOMALY REMOVAL SITE #29 OR 49)**



**ALAMEDA POINT LANDFILL #2
BACKSIDE OF Sr-90 BUTTON
(FROM ANOMALY REMOVAL SITE #29 OR 49)**



**ALAMEDA POINT LANDFILL #2
PLASTIC "GLOW DOT"
(FROM ANOMALY REMOVAL SITE #15)**



**ALAMEDA POINT LANDFILL #2
TOGGLE SWITCH LEVER
(FROM ANOMALY REMOVAL SITE #16)**



**ALAMEDA POINT LANDFILL #2
MELTED GLASS AND SOIL
(FROM ANOMALY REMOVAL SITE #23)**



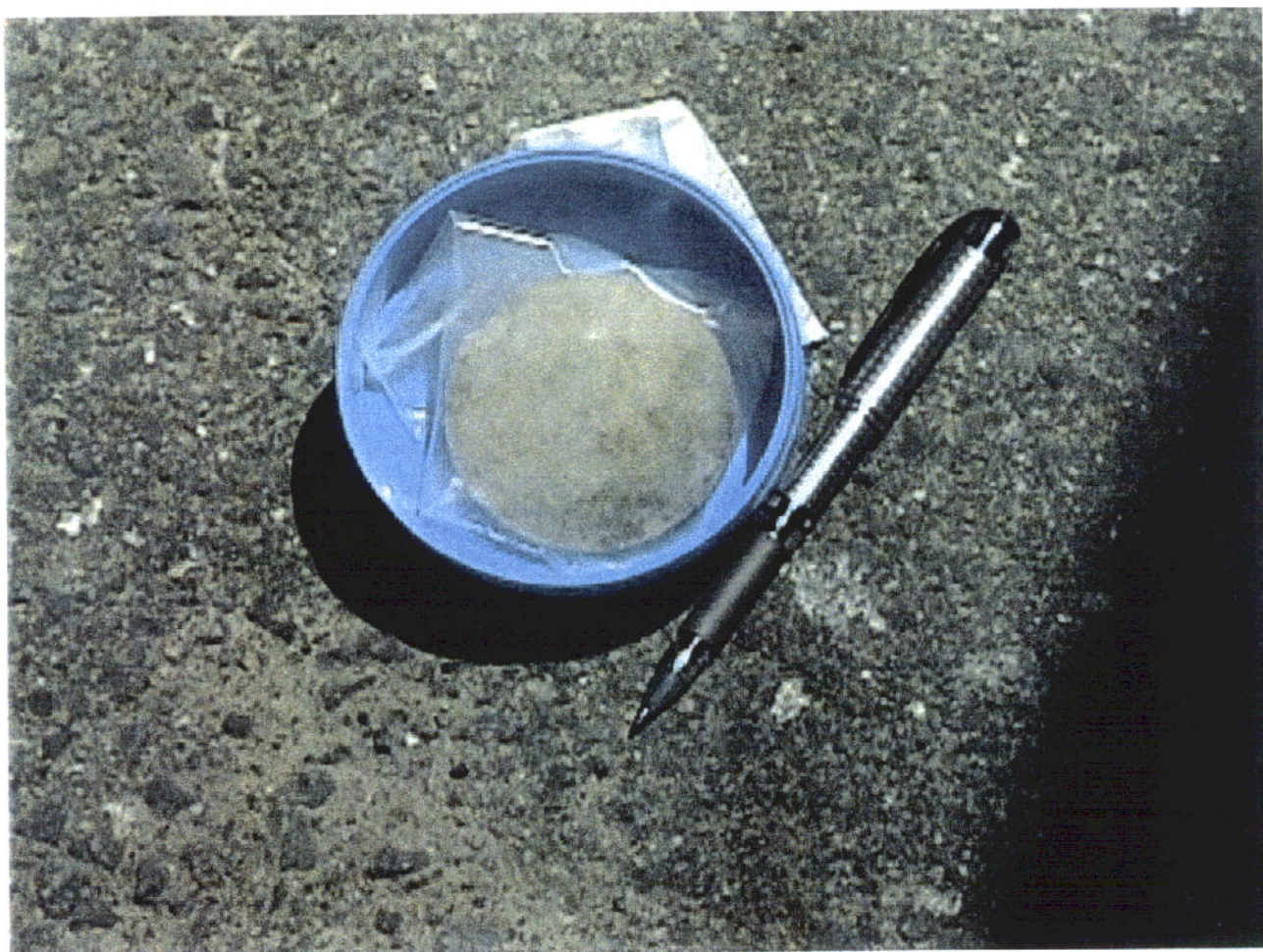
ALAMEDA POINT LANDFILL #2
TYPICAL RADIUM BUTTON AND OTHER ITEMS
(FROM ANOMALY REMOVAL SITE #26)



**ALAMEDA POINT LANDFILL #2
PLASTIC WARNING SIGN PIECES
(FROM ANOMALY REMOVAL SITE #10 OR 37)**



**ALAMEDA POINT LANDFILL #2
"TERRAZZO" PIECES
(FROM ANOMALY REMOVAL SITE #18)**



**ALAMEDA POINT LANDFILL #2
THORIATED LENS
(FROM ANOMALY REMOVAL SITE #2)**



**ALAMEDA POINT LANDFILL #2
SSPORTS SURVEY TRACTOR TRAILER RIG
PARKED IN BUNKER M353**